

## DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Mouse                                                                                                                                                                                       |
| <b>Specificity</b>                                                                                                                                                                                      | Detects mouse Kremen-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant human Kremen-2 and recombinant mouse Kremen-2 is observed. |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Goat IgG                                                                                                                                                                         |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                                                                                                   |
| <b>Immunogen</b>                                                                                                                                                                                        | Mouse myeloma cell line NS0-derived recombinant mouse Kremen-1<br>Ala20-Gly395<br>Accession # Q640Q6                                                                                        |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 532<br>Excitation Wavelength: 534 nm<br>Emission Wavelength: 553 nm                                                                                                             |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                                                                                                |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                                                                                                             |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>CyTOF-ready</b>          | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Flow Cytometry</b>       | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Kremen (Kringle-containing protein marking the eye and the nose) proteins are type I transmembrane proteins that contain extracellular kringle, WSC and CUB domains and an intracellular region without any conserved motifs (1). Two related members, Kremen-1 and -2, have been identified. Kremens bind a subset of the secreted Dickkopf (Dkk) proteins (Dkk-1, -2, and -4) with high affinity to modulate the canonical Wnt signaling pathway that is transduced by the ternary receptor complex composed of Wnt, the seven-transmembrane domain receptor Frizzled, and the LDL-receptor-related protein 5/6 (LRP5/6) co-receptor (2, 3). Within the Dkk family, Dkk-1 and -4 bind directly to the LRP5/6 co-receptor to antagonize the canonical Wnt/β-catenin signaling pathway, but not the planar cell polarity (PCP) signaling pathway that does not involve LRP5/6 (4). In contrast, Dkk-3 has no effect on Wnt signaling and Dkk-2 can function either as an LRP agonist or antagonist, depending on whether the cell expresses Kremen (5). Kremen co-operates with Dkk to antagonize Wnt signaling via formation of a Kremen-Dkk-LRP ternary complex that triggers the internalization and clearance of the complex from the cell surface (3). All three extracellular domains but not the cytoplasmic region of a membrane anchored Kremen are needed for binding to the second cysteine-rich domain of Dkks (3). Mouse Kremen-1 cDNA encodes a 473 amino acid (aa) glycosylated protein with a putative 19 aa signal peptide, a 372 aa extracellular domain, a 21 aa transmembrane domain and a 60 aa cytoplasmic domain. In the extracellular domain, it shares 92% and 41% amino acid sequence identity with human Kremen-1 and mouse Kremen-2, respectively. Mouse Kremen-1 is widely expressed in diverse embryonic (apical ectodermal ridge of the developing fore- and hindlimb buds, telencephalon and the first brachial arch, myotome and sensory tissues) and adult (lung, heart, kidney, skeletal muscle and testis) tissues (1).

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